2005 Wind Power Production — Please complete and return to the Wind Power Workshops, Office of Conferences and Institutes, Appalachian State University, ASU Box 32042, University Hall, Boone, North Carolina 28608-2042

Name _____ Phone # _____

Address_____ City_____ State_____ Zip_____

E-mail _____Fax# _____Dietary preference_____

How did you hear about the workshops_____

Workshop attending: ❑ **Wind Resource Assessment 4/15-16 (05WIND1)** ❑ **AWP 3.6 5/21-22 (05WIND2)** ❑ **Introduction 6/4 (05WIND3)**
❑ **Bergey XL.1 6/25-26 (05WIND4)** ❑**Introduction 9/10 (05WIND5)** ❑**Southwest Wind Power 9/17-18 (05WIND6)** ❑ **Introduction 10/15 (05WIND7)**

Full payment must be sent with the application. Pay by check, payable to Appalachian State Univ. **or** by VISA/MC. If paying by credit card, please complete the following information. Faxed applications are permitted for credit card payments only by faxing to 828-262-4992. VISA/MC ONLY. **If faxing, do not mail application.**

Credit Card#_____ Expiration Date_____ Amt charged_____
Card Holder's Name _____
Card Holder's Address _____
Card Holder's Signature _____

Office Use ONLY
_____
Total due $_____ Amount Received $_____
Balance $_____
___check ___cash ___CC

Cancellation: Refunds will be given with cancellation 10 days prior to the workshop start date (minus $30 processing fee). Appalachian State University reserves the right to cancel this program for any reason.

Who should attend?

- Land, home, business, or farm owners
- Students and tradespersons
- Teachers
- Elected officials
- Utility companies/cooperatives
- Any energy user interested in learning more about harnessing wind power for a clean and secure energy future.

Details for your convenience:

PARKING is conveniently located at the SWI Research and Demonstration site and at the adjacent Pinnacle Inn.

HOTEL ACCOMMODATIONS include:
Pinnacle Inn (828) 387-2231, Beech Mountain (Located directly next to the SWI Research and Demonstration Facility on Beech Mountain)
The 4-Seasons Inn (828)387-4211, Beech Mountain
Best Western (828) 877-4553, Banner Elk
Archers Mountain Inn (828) 827-6155

CAMPING at the Small Wind Research and Demonstration Site is also offered for the workshops as a way to decrease expense (and lull you to sleep).

MAP & DIRECTIONS can be found at the ASU wind website – www.wind.appstate.edu

FOR PROGRAM INFORMATION, please contact:
The NC Small Wind Initiative Office:
(828)262-7333
wind@appstate.edu www.wind.appstate.edu

FOR REGISTRATION INFORMATION,
please contact: Appalachian State University, Office of Conferences and Institutes, (828) 262-2933
https://ssl1.appstate.edu/confinst/wind.php

The **SWI Research and Demonstration Facility** is a 5-acre lot located on the top of Beech Mountain, featuring 6 small-scale wind turbines including: African Windpower AWP 3.6; Bergey XL.1; Southwest Windpower Whisper 175; Southwest Windpower Whisper H40; Southwest Windpower AirX; Jacobs 31-20. The control center building on-site provides housing for the battery systems, inverters, charge controllers, utility meters, and other equipment. The site has been in operation since May 2004 and is maintained by ASU faculty, staff, and students, providing valuable research and training experience while giving local residents first-hand experience of small wind systems. Please visit the SWI website for more site details. www.wind.appstate.edu

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Office of Conferences & Institutes
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Small Wind Initiative's 2005 Workshop Series

Wind Power for Your Home, Farm, and Business

R&D Site Tour & Introductory Lecture — June 4th, September 10th, October 15th

Wind Resource Assessment April 15-16th

Small Scale Wind Energy with Robert Preus & the AWP 3.6 Wind Turbine — May 21-22nd

Small Scale Wind Energy with Bergey Windpower Company— June 25-26th

Whisper H80 Grid-tie Installation Workshop with Southwest Windpower—September 17 - 18th

All workshops will be held at the SWI Small Wind Research and Demonstration Site on Beech Mountain.

State Energy Office
www.energync.net 1-800-662-7131

Appalachian
STATE UNIVERSITY

Wind power is a non-polluting, sustainable, reliable, and economical source of energy that can help us reduce our dependence on imported fossil fuels, help preserve and protect our environment, and at the same time create new jobs and industry and sustainable economic development. Recent studies have identified close to a million acres of land in Western NC with wind resources adequate for small scale electricity production.

The **North Carolina Small Wind Initiative (SWI)** is a collaborative project supported by Appalachian State University, North Carolina State Energy Office, TVA and the US DOE. The SWI is assessing the performance of small wind technology in the region and is providing interested groups and individuals, electric utilities and the general public with advice and information about small wind technology, wind resource assessment, potential energy production, and the economics of wind energy. It is providing those interested with the opportunity to help install and/or experience different types of wind turbines and towers, as well as other system components. Specific goals are to:

- **Test and demonstrate** a variety of commercially available small wind technologies.
- Provide **information and consulting** services to the public related to small wind technology and establish a database of definitive performance results for small wind turbine technology in the state.
- **Identify the owners of windy land** and contact them with information about their wind resources and small wind technology.
- Operate an **Anemometer Loan Program** to help interested property owners measure their wind resources.
- Organize, advertise, and host a series of **workshops** on small wind technology using a combination of national and international experts as well as regional resources.

Register at www.wind.appstate.edu

Introduction to Wind Power with R&D Site Tour: Wind in Your Own Backyard

Saturday, June 4th, September 10th, OR October 15th — all 9 am-4 pm

These introductory workshops will include classroom presentations and a tour of the Small Wind Research & Demonstration Site. Participants will learn about: the characteristics of a good wind site, how to measure wind resources, best practices for siting a wind turbine, the different types of residential scale turbines available in the market place today and their expected performance and cost, various types of towers and other components used in a wind system, legal and utility concerns, wind/solar hybrid systems, incentive programs and how to do it right.

Workshop Leaders: These introductory workshops will be led by faculty and staff from Appalachian State University's Appropriate Technology program and the Small Wind Initiative. Appalachian's Appropriate Technology Program has over 20 years experience designing, constructing and testing a wide variety of renewable energy technologies and has initiated and led many of the wind energy research projects conducted in the region over the last several years, including the development of the SWI's research and demonstration facility.

COST: $50 (student rate: $30)

Wind Resource Assessment

Friday and Saturday, April 15th (5 pm-9 pm) and April 16th (9 am-5 pm)

This two-day workshop will focus on a variety of techniques for measuring the wind and determining if a site would be feasible for a wind turbine. A complete wind measurement system will be constructed and installed during the second day of the workshop. Participants will learn about, and receive, a variety of wind maps. They will also receive a searchable electronic copy of the newly produced NC Wind Map CD and instruction in how to use it. Participants will learn about anemometers, wind vanes, and other sensors and equipment used for wind energy assessment work. Examples of most of the commercially available data loggers will be discussed and demonstrated. Methods of analyzing the data will be covered as well as methods for estimating the annual energy production of a variety of wind turbines. Appalachian's Anemometer Loan program will also be described. Workshop participants will receive an extensive collection of wind energy resources and product information, and two software packages useful for wind assessment work.

This workshop is co-sponsored by NRG Systems, Inc.

COST: $150 (student rate: $100)

Small Scale Wind Energy with Robert Preus & AWP 3.6 Wind Turbine

Saturday and Sunday, May 21-22 — 9 am-5 pm

Robert Preus, owner of Abundant Renewable Energy, will lead this AWP 3.6 workshop to demonstrate turbine erection, siting and interconnection practices. Tower safety, trouble-shooting, and turbine maintenance will also be presented. The workshop will focus on a more detailed look at the AWP 3.6 wind turbine system, which is suitable for low to moderate wind sites with its 11.8-foot rotor diameter. Robert Preus is a renewable energy consultant and licensed mechanical engineer with 20 years in the wind industry. His company, Abundant Renewable Energy of Portland, Oregon, is the exclusive North American importer and distributor of African Wind Power Products and rebuilds old Jacobs wind generators. www.abundantre.com

TWO-DAY COST: $150 (Student rate: $100)

Small Scale Wind Energy with Bergey Windpower Company

Saturday and Sunday, June 25-26 — 9 am-5 pm

Participants at this workshop will receive an overview of small wind technology, with a specific focus on the Bergey XL1 turbine. Class discussion will also cover tower safety, estimating wind power, and interconnection practices. Hands-on activities will be included. Bergey Windpower is an award-winning small wind turbine company with over 30 years experience in the wind industry. Bergey wind turbines have now been installed in all 50 States and more than 90 countries. www.bergey.com

TWO-DAY COST: $150 (Student rate: $100)

Southwest Windpower H80 Grid-tie Installation Workshop

Saturday and Sunday, September 17-18th — 9 am-5 pm

This H80 turbine installation workshop will introduce and provide training on Southwest's newest product line: Whisper H80 Grid-tie System, featuring a 10 ft (3.1m) rotor diameter turbine for greater output at low wind speed averages, and a plug-and-play grid-tie application. Along with this new installation at the R&D Site, this workshop offers extensive materials and instruction on tower raising, maintenance, and interconnection in urban settings. Driven by a deep and abiding commitment to the environment Southwest Windpower continues to design, manufacture and sell state-of-the-art wind energy systems of high-quality, durability and affordability. www.windenergy.com

TWO-DAY COST: $150 (Student rate: $100)

Details

Each of the SWI Workshops will be held at the SWI R&D site and the adjacent Pinnacle Inn. The workshops will include lunch and break services, instruction, and a complete collection of reading and design materials, reference guides, and wind turbine product information. All attendees will also receive the U.S. Department of Energy's newly published "North Carolina Small Wind Electric Systems Handbook," as well as the new, interactive NC Wind Resource Map CD. This map allows viewers to get comprehensive wind data for any 10-acre lot in NC.